REMARKS

Claims 1–26 are pending in the present application.

Claims 21–25 have been allowed.

Claims 1, 9 and 17 were amended herein; claim 26 was added.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 103 (Obviousness)

Claims 1–4, 7 and 17–20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,848,006 to *Hermann* in view of U.S. Patent No. 6,865,149 to *Kalman et al.* Claims 9–12 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hermann* in view of *Kalman et al* and further in view of U.S. Patent No. 6,111,859 to *Godfrey et al.* These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-133 (8th ed. rev. 4 October 2005). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.*

To establish a *prima facie* case of obviousness, three basic criteria must be met: First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference

(or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

Independent claims 1, 9 and 17 each recite eight sequential data links bidirectionally coupling eight switching networks to form an octagonal ring, with only four crossing data links coupling switching networks disposed opposite from each other around the circumference of the octagonal ring. The specification teaches that a conflict arises between eliminating multiple hop data links between source and destination nodes, which are a primary source of delay within the system, and providing direct connections with, for example, an NxN crossbar, which slows operating speed by adding complexity to the design:

> The way in which all the packet-processing engines in a network processing unit connect to internal and external resources is crucial. If a data packet processing engine is unable to continue work because it is limited by a slow interconnection network in the network processing unit (NPU), then much of the processing power is wasted. A primary source of delay in the interconnection network in a network processing unit (NPU) and many other system-on-a-chip (SOC) devices is the number of data links that a data packet must traverse to get from a source node to a destination node within the NPU or other SOC device. Unfortunately, eliminating all multiple hop data links by connecting all processing nodes directly to all other processing nodes, such as by means of an NxN crossbar, results in a complex interconnection network that reduces the speed of data transfers due to the physical length of the interconnections and interference between the interconnections.

Specification, page 6, line 10 through page 7, line 3. The inventors have determined that the a solution between the trade-off between design complexity and number of hops is adequately resolved by arranging an even number of the nodes in a sequentially-coupled ring (preferably octagonal, based

on switching node addressing) with cross-connections between oppositely disposed nodes. This configuration limits the maximum number of hops between any two nodes to two (for the octagonal ring of the exemplary embodiment), but may be implemented with acceptable complexity and operating speed. Such a feature is not found in the cited references.

Hermann discloses various embodiments of a system including five nodes A–E in Figures 1A–1B and 2, seven nodes A–G in Figures 6A–6C, and sixteen nodes A–L and N–Q in Figures 7A–7B. More significantly, however, *Hermann* provides no teaching of providing cross-connections only between oppositely disposed nodes. Nor does *Hermann* provide any motivation or incentive for so limiting the number of cross-connections. Similarly, *Kalman et al* teaches a system including eight nodes connected in two uni-directional rings, but contains no teaching of cross-connections nor of limiting the number of cross-connections, and provides no motivation or incentive for limiting the number of cross-connections.

Therefore, the rejection of claims 1–4, 7, 9–12, 15 and 17–20 under 35 U.S.C. § 103 has been overcome.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at ***dvenglarik@munckbutrus.com***.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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